

FBI CELLULAR ANALYSIS SURVEY TEAM

HISTORICAL MOBILE DEVICE LOCATION ANALYSIS

DRAFT



SA Jeremy Bauer
FBI Chicago

Trial Report

Telephone Number Analyzed
(630) 660-0402

4/30/2021



INTRODUCTION

1. Background

The Federal Bureau of Investigation (FBI) Cellular Analysis Survey Team (CAST) was requested by SA Shanna Saunders to analyze cell phone records for (630) 660-0402. The cell phone was believed to be associated with a bank robbery which occurred on July 11, 2020 at approximately 11:00 AM at Glen Ellyn Bank and Trust, 357 Roosevelt Road, Glen Ellyn, IL. An additional pertinent address was also provided.

2. ~~DRAFT~~ Methodology

An analysis was performed on the call detail records obtained for the cell phone. The call detail records documented the network interaction to and from the cell phone. Additionally, the records documented the cell tower and cell sector ("cell site") which served the cell phone during this activity. Used in conjunction, the call detail records and a list of cell site locations illustrate an approximate location of the cell phone when contact was initiated with the network.

2.1 Cell Site Locations

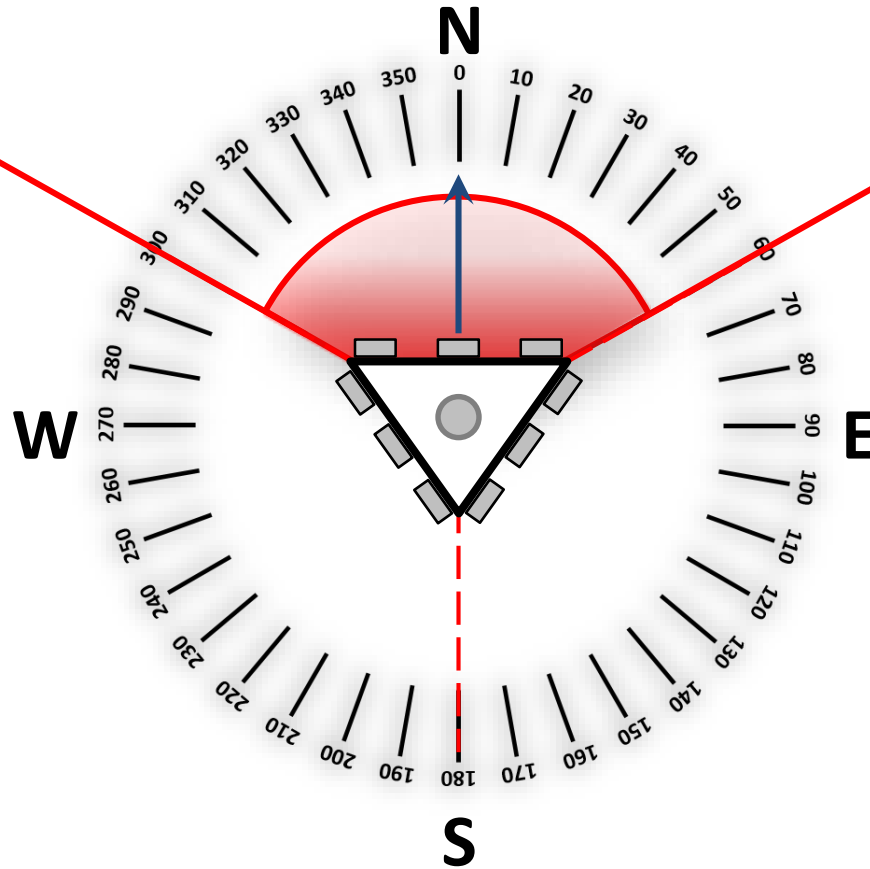
Cell sites in existence during the time of the incident were input into mapping software using latitude/longitude coordinates of the cell sites provided by the service provider. The cell sites associated with the target cell phone were located utilizing the mapping software and the plotted cell site data. T-Mobile also provided Timing Advance data which shows an approximate distance from the tower for the cell phone, as measured by the network.

3. Conclusions

A historical cell site analysis was performed on the call detail records for the cell phone. The methods detailed in Sections 2 and 2.1 were used to produce the attached historical cell site analysis maps. All times on the following maps are displayed in Central Time.

SECTOR ILLUSTRATION

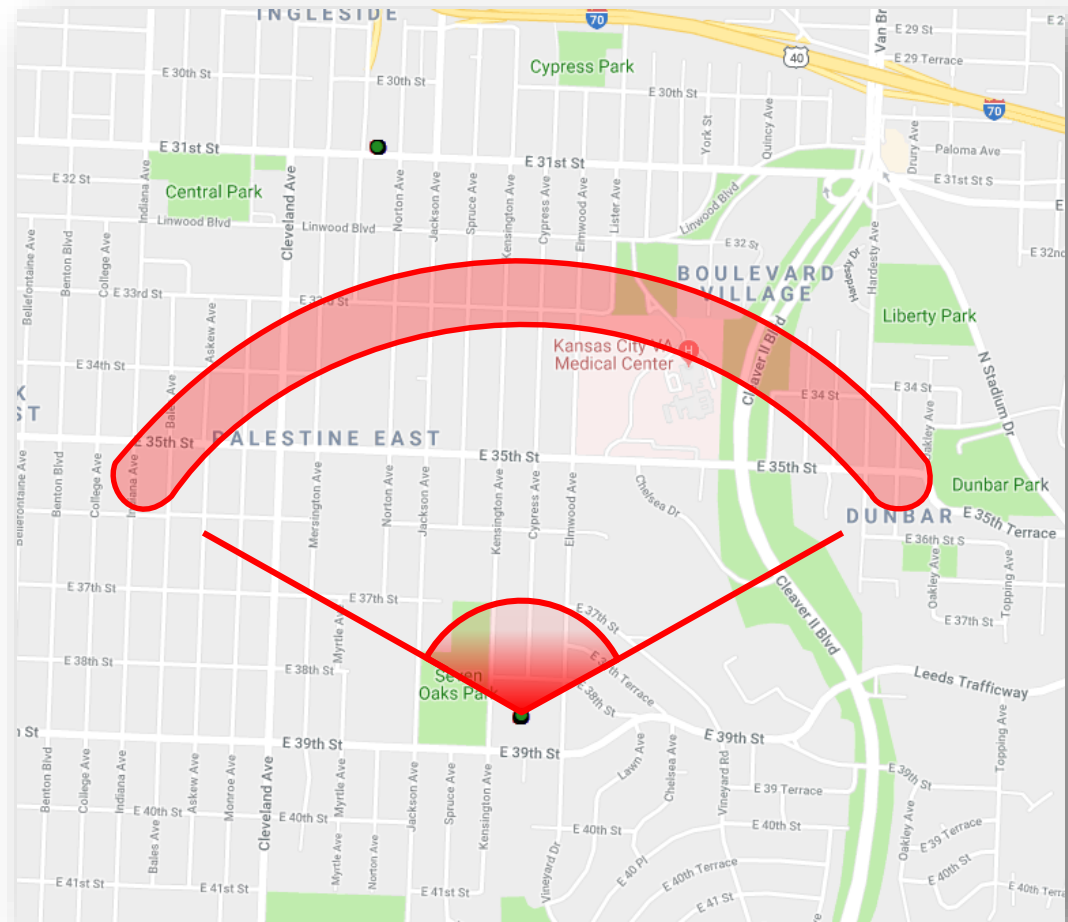
- Active sectors are displayed as a wedge with a shaded arc
- The **DRAFT** shaded arc solely indicates the general direction of the radio frequency signal
- The sector orientation can vary by cell site and service provider



TIMING ADVANCE

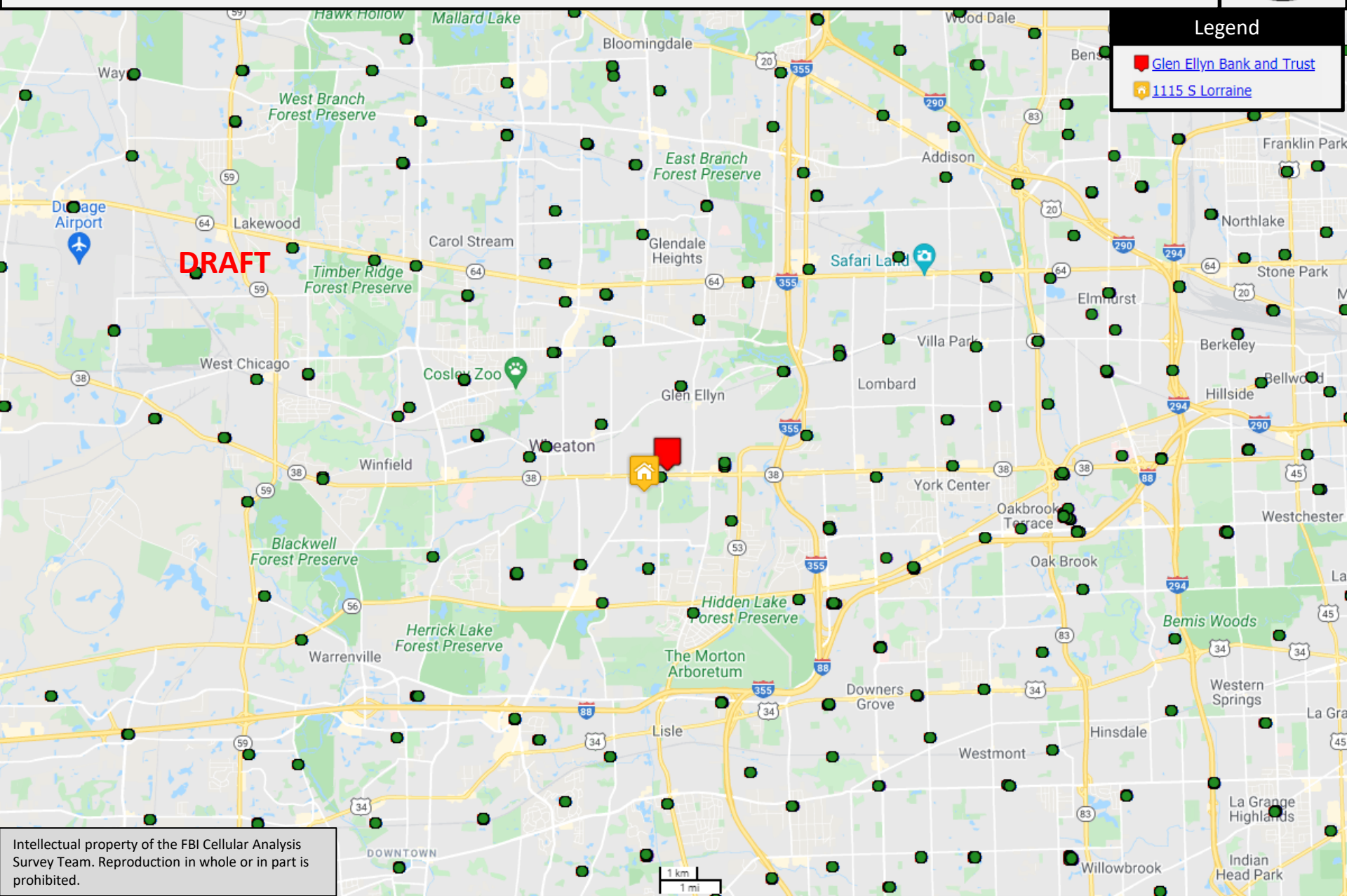
- A roundtrip network measurement from tower to device and back as provided by T-Mobile.
- When displayed on a map, a Timing Advance illustration shows an approximate distance from the tower for the phone.

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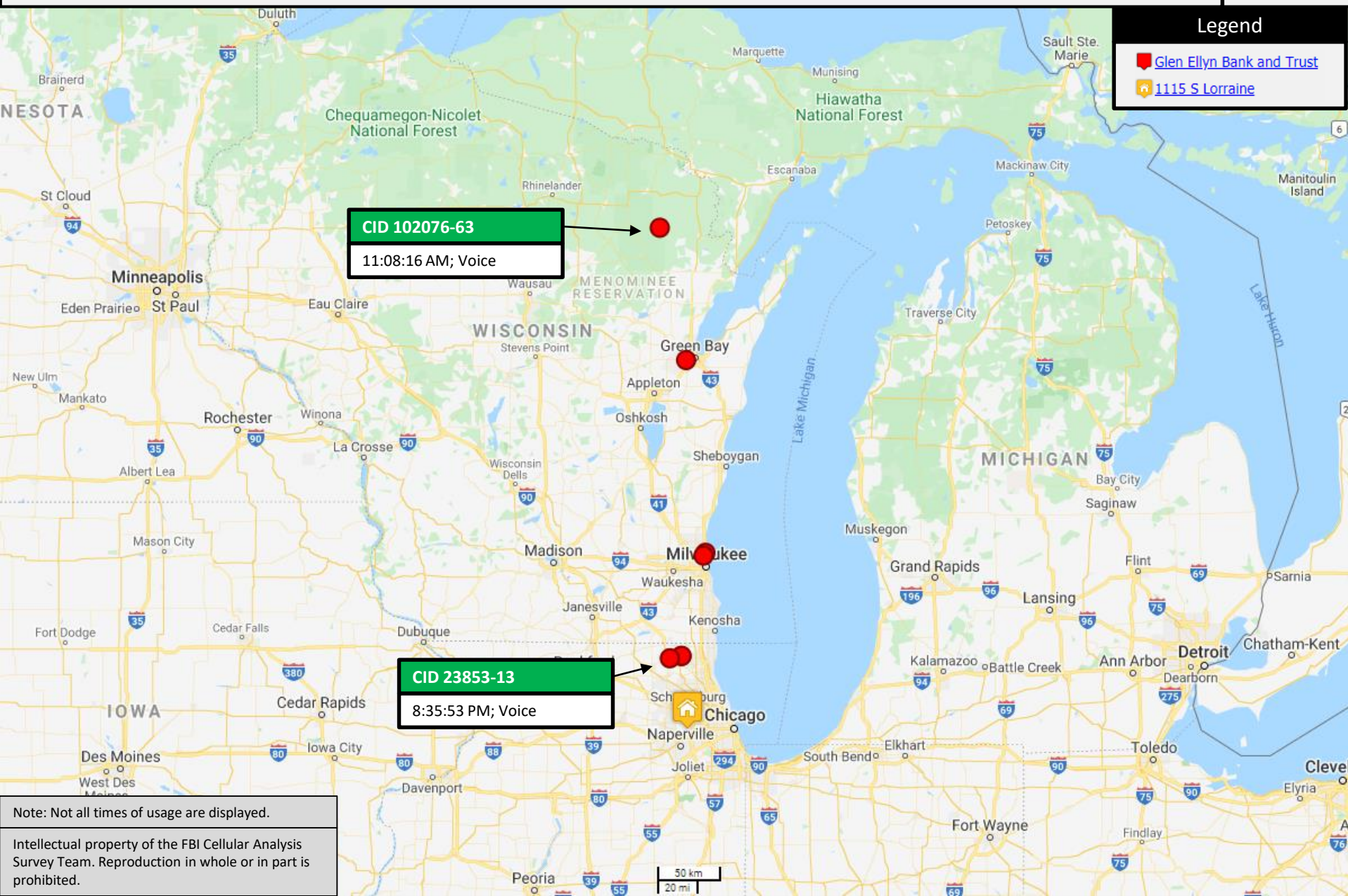


Map depicting the T-Mobile towers (green dots) in the area and the addresses provided as pertinent to the investigation.



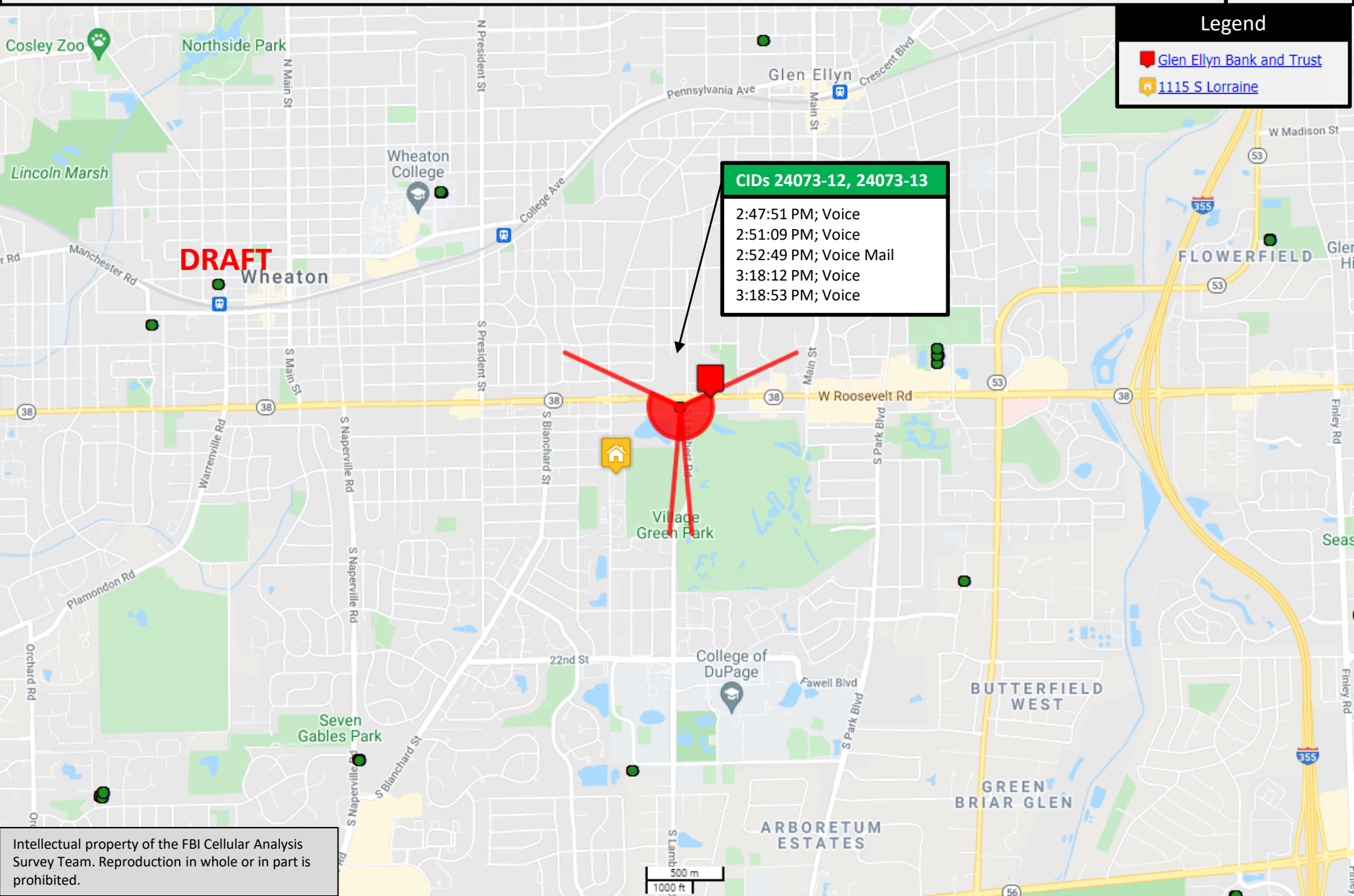


Map depicting the cell sites used by (b)(3)(b) 660-0402 on July 9, 2020. The records are consistent with southbound travel.





Map depicting the times on July 10, 2020 during which **(630) 660-0402** used tower 24073.



Legend

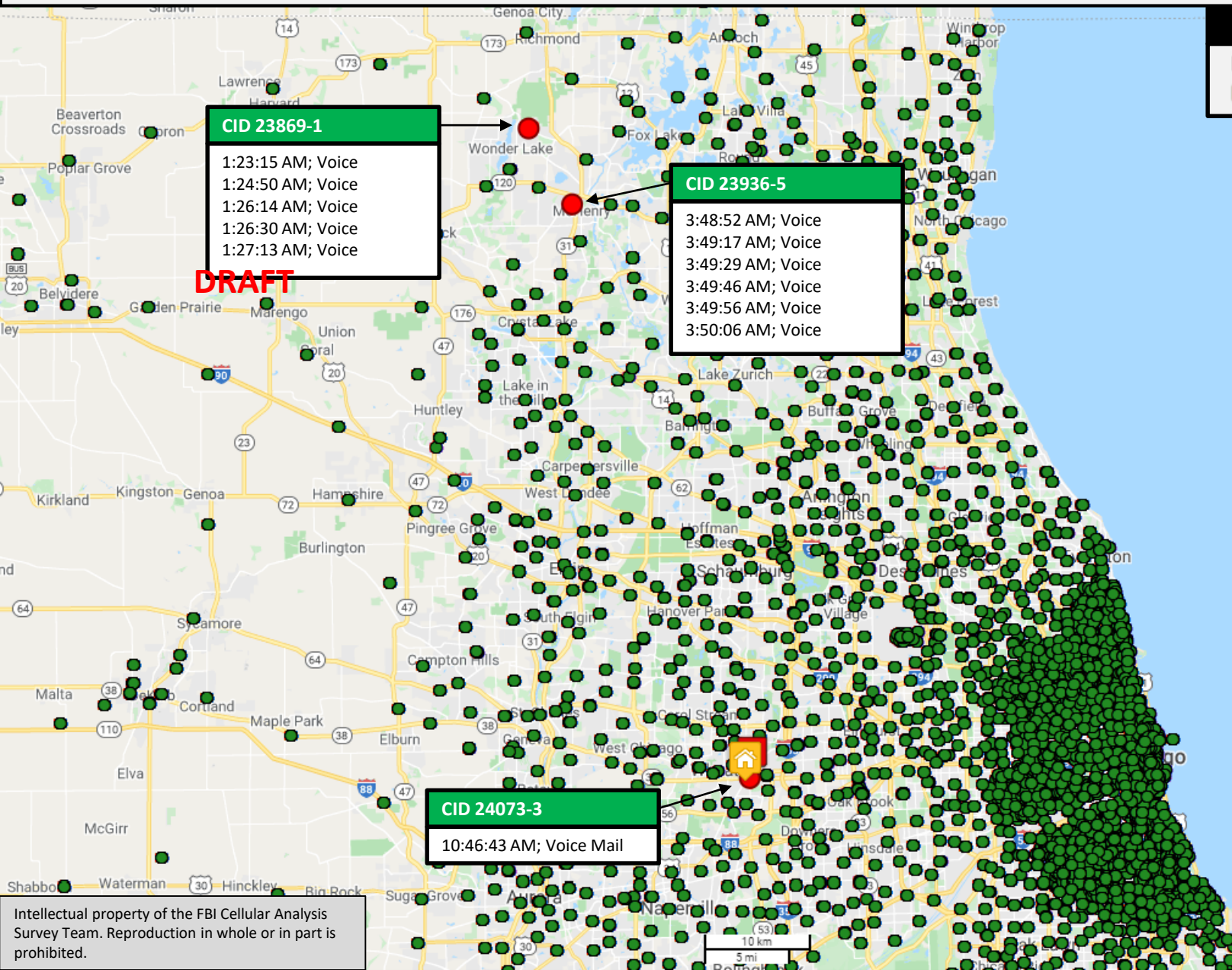
- Glen Ellyn Bank and Trust
- 🏠 1115 S Lorraine



Map depicting the cell sites used by **(630) 660-0402** on July 11, 2020 from 12:00 AM to 11:00 AM.

Legend

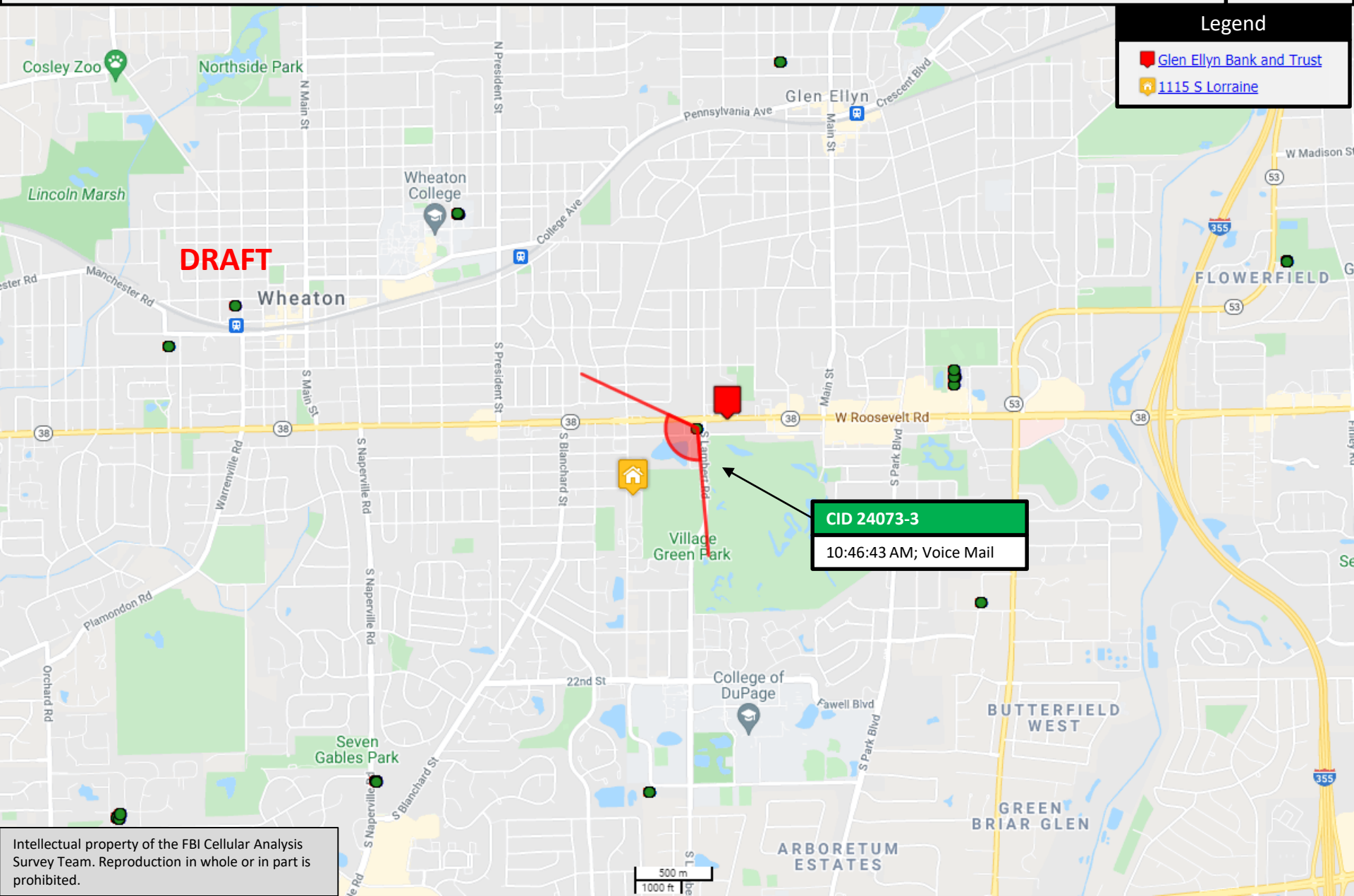
- [Glen Ellyn Bank and Trust](#)
- [1115 S Lorraine](#)



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Map depicting the cell site used by **(630) 660-0402** on July 11, 2020 at 10:46 AM.



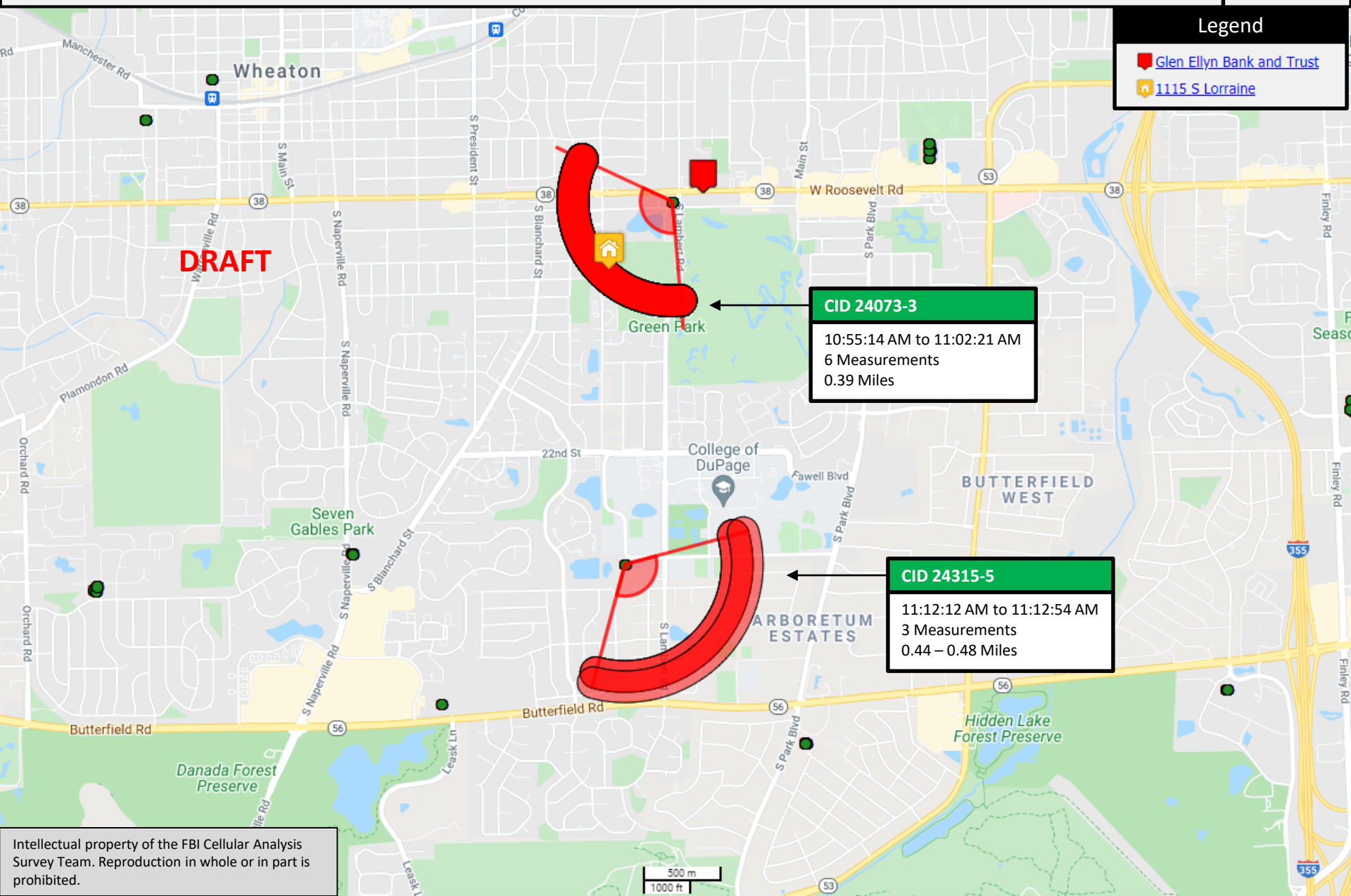
Legend

- [Glen Ellyn Bank and Trust](#)
- [1115 S Lorraine](#)

CID 24073-3
10:46:43 AM; Voice Mail

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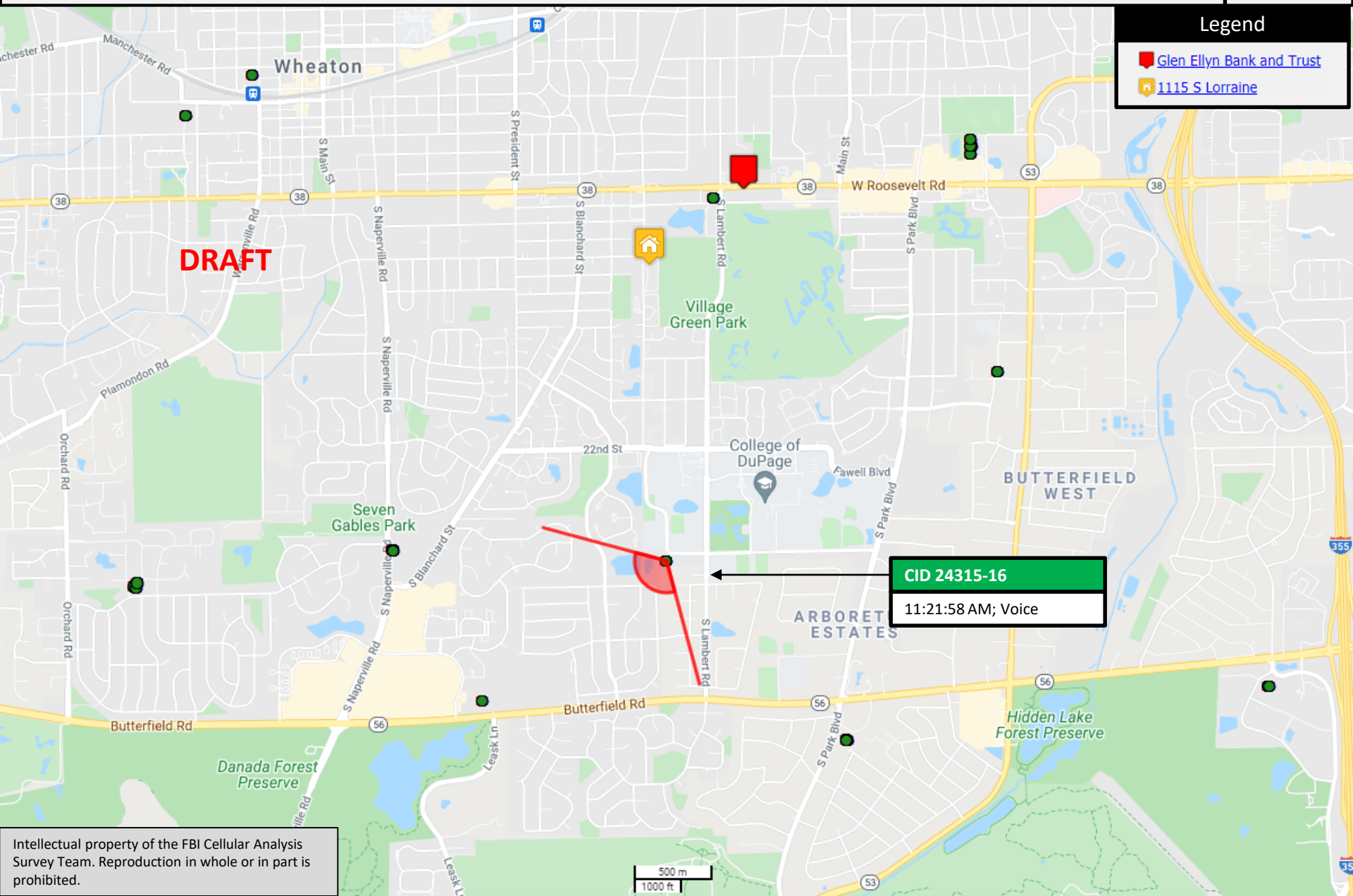
Call detail records from July 11, 2020 from 3:50 AM to 11:21 AM (CDT). The records show no outgoing call or SMS activity between 3:50 AM and 11:12 AM (CDT).

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Date	Time	Duration	Call Type	Direction	Calling Number	Dialed Number	Called Number	Destination Number	IMSI	IMEI	Completion Code	Service Code	Switch Name	1st LTE Site ID	1st LTE Sector ID
07/11/2020	08:50:06	2	mc	Outgoing	16306600402	8474069536	8474069536	18474069536	310260068398833	358852105438800	Completed Successfully		CHTA5010	23936	5
07/11/2020	15:33:21		SMSC		18475056221		16306600402				Completed Successfully		mavsms_pol 03		
07/11/2020	15:43:15		SMSC		18475056221		16306600402				Completed Successfully		mavsms_pol 03		
07/11/2020	15:46:43	4	mtc	Incoming	18475056221	16306600402	16306600402	16306600402	310260068398833	358852105438800	Completed Successfully	02A;11	DNTAS201	24073	3
07/11/2020	15:47:16	4	mc	Outgoing	18475056221	14699829999	14699829999	14699829999	310260068398833	358852105438800	Completed Successfully	02A	DNTAS201	24073	3
07/11/2020	15:58:13		SMSC		18475056221		16306600402				Completed Successfully		mavsms_pol 03		
07/11/2020	16:12:27		SMSC		16306600402		18475056221				Completed Successfully		mavsms_pol 04		
07/11/2020	16:13:06		SMSC		18475056221		16306600402				Completed Successfully		mavsms_pol 03		
07/11/2020	16:19:52		SMSC		18475056221		16306600402				Completed Successfully		mavsms_pol 03		
07/11/2020	16:20:23		SMSC		18475056221		16306600402				Completed Successfully		mavsms_pol 03		
07/11/2020	16:21:58	304	mc	Outgoing	16306600402	18475056221	18475056221	18475056221	310260068398833	358852105438800	Completed Successfully		DNTAS201	24315	16



Map depicting the cell site used by (630) 660-0402 on July 11, 2020 at 11:21 AM.



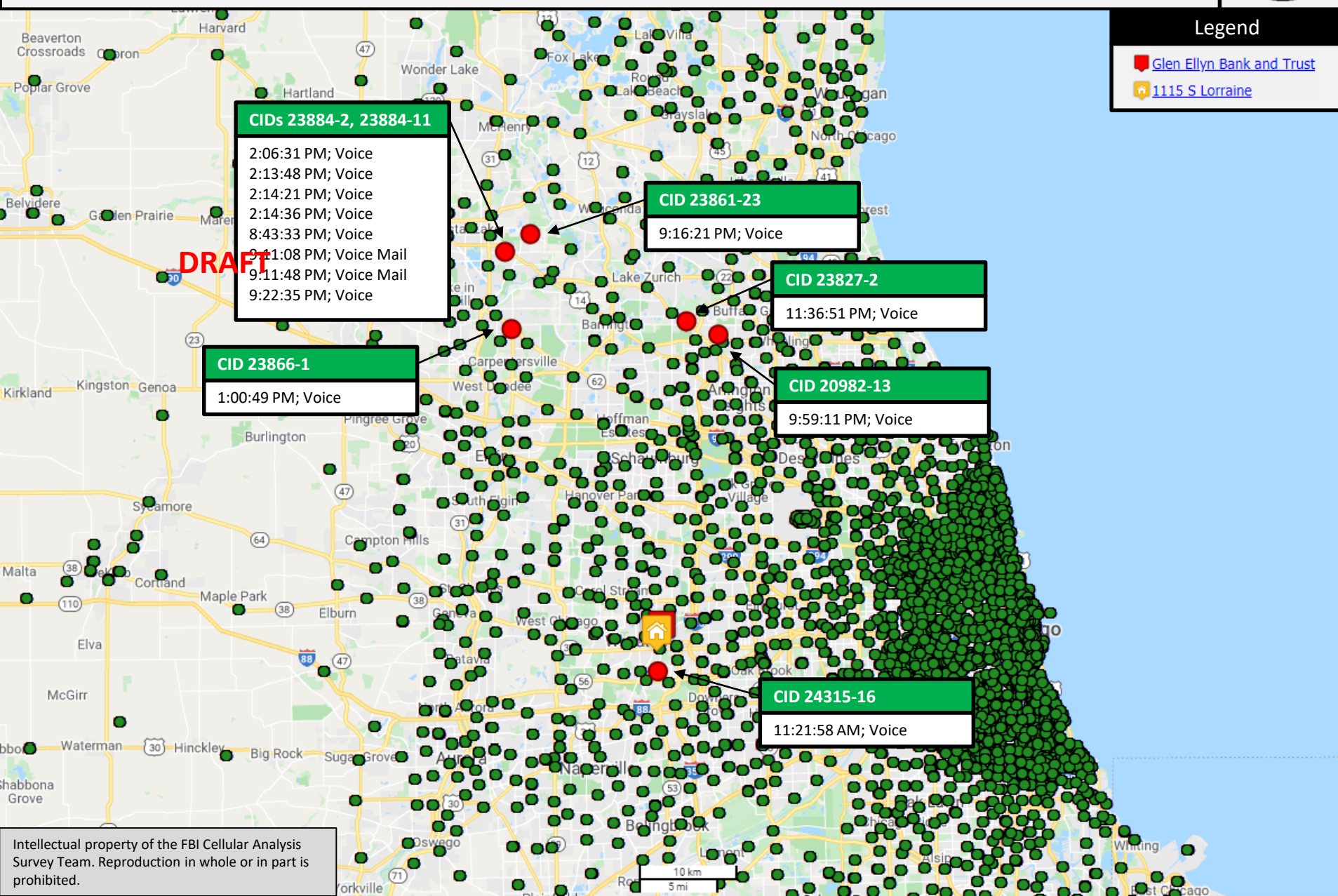
Legend

- Glen Ellyn Bank and Trust
- 1115 S Lorraine

CID 24315-16

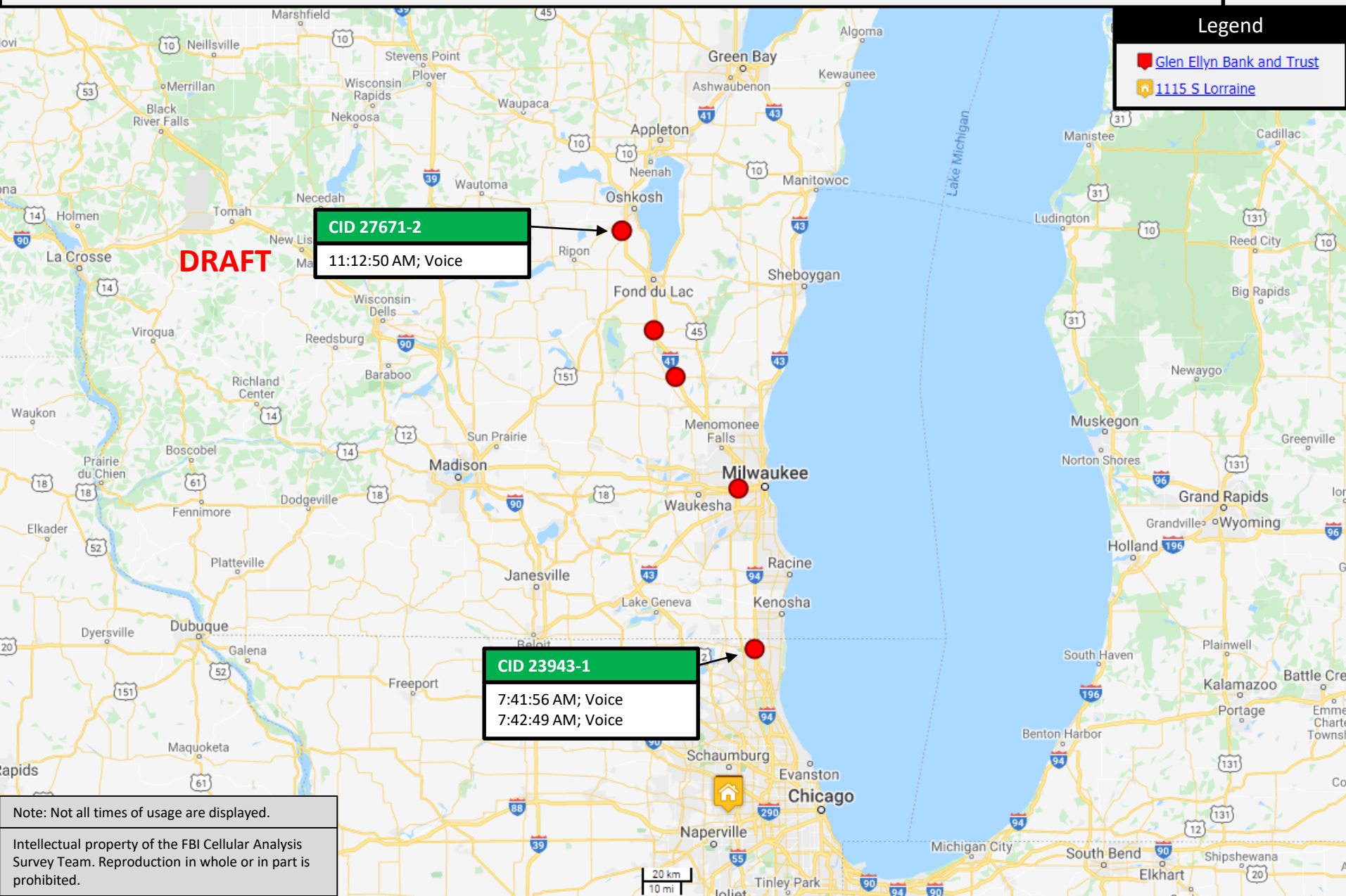
11:21:58 AM; Voice

Map depicting the cell sites used by (630) 660-0402 on July 11, 2020 from 11:00 AM to 11:59 PM.





Map depicting the cell sites used by (630) 660-0402 on July 12, 2020. The records are consistent with northbound travel.



Note: Not all times of usage are displayed.

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